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# EXAMPLE OF ROTOR FLUX VECTOR DIRECTION CALCULATION

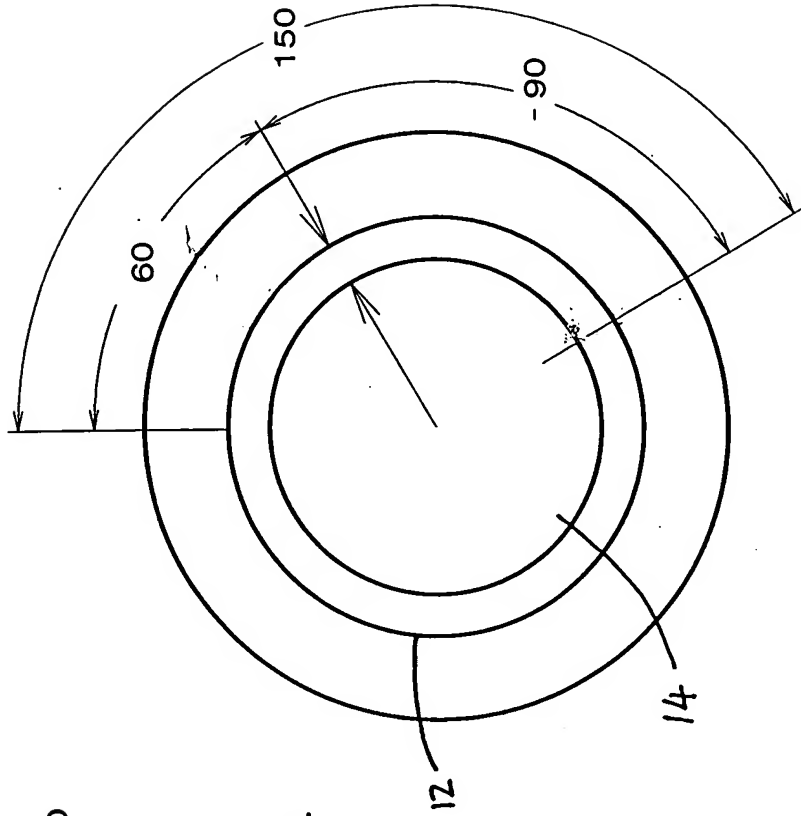
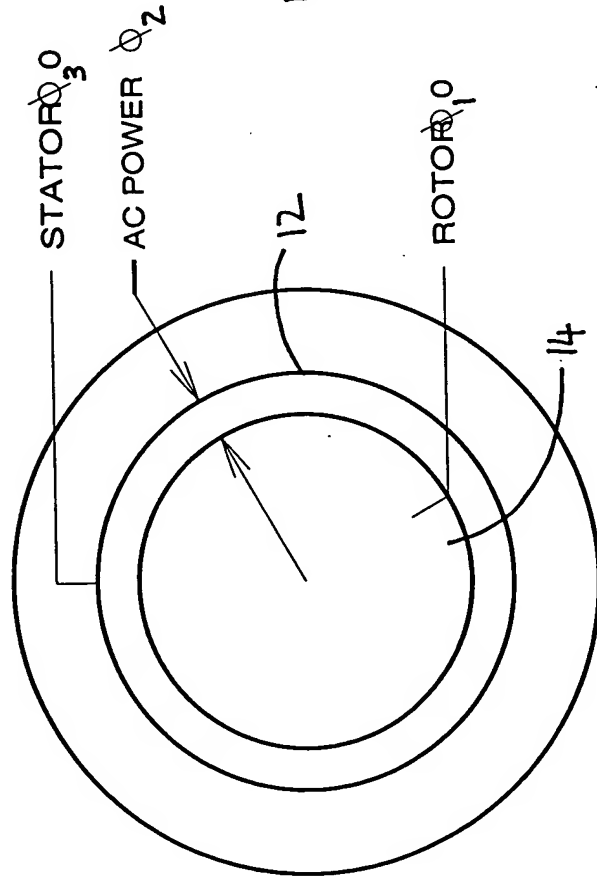
CASE:

AC POWER  $\phi_2$  60

ROTOR  $\phi_1$  ANGLE 150

RESULT:

$$60 - 150 = -90$$



ROTOR FLUX VECTOR MUST POINT AT -90 DEGREES TO REMAIN IN PHASE-LOCK

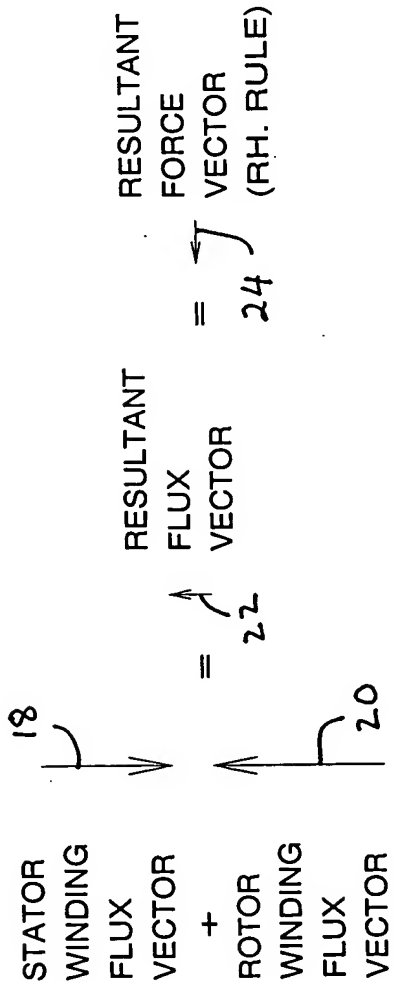
ALL NUMBERS IN DEGREES

FIG. 1

# EXAMPLE OF ROTOR FLUX VECTOR MAGNITUDE CALCULATION

CASE:

STATOR WINDING FLUX VECTOR MAGNITUDE	3 UNITS
ROTOR WINDING FLUX VECTOR MAGNITUDE	4 UNITS



ROTOR WILL ACCELERATE COUNTERCLOCKWISE

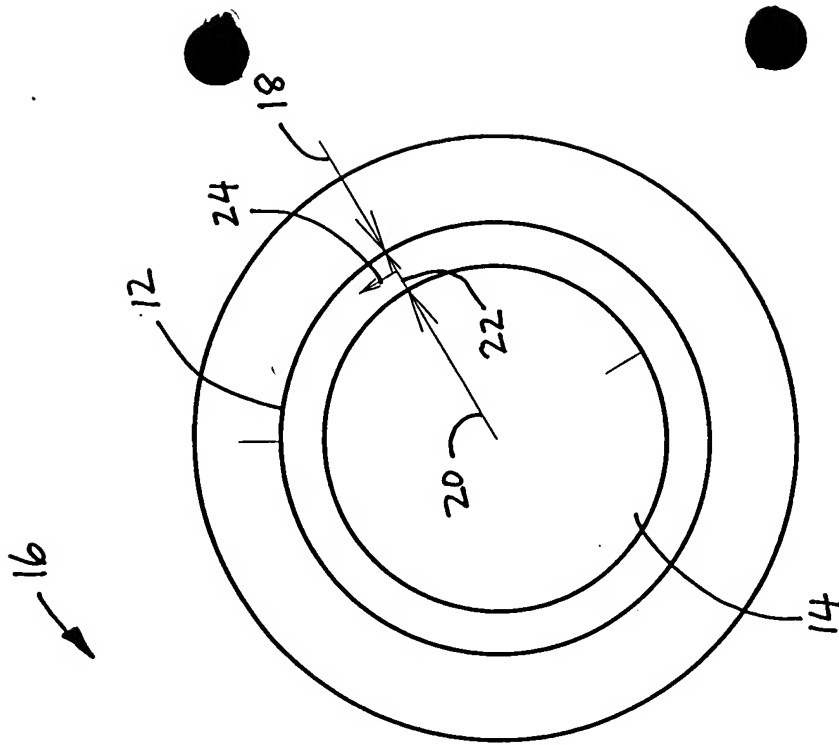


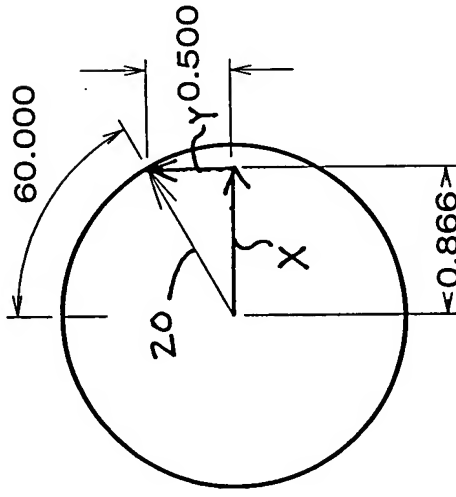
FIG. 2

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# EXAMPLE OF ROTOR FLUX VECTOR COMPONENT SEPARATION

CASE:

ROTOR WINDING FLUX VECTOR DIRECTION 60 DEGREES  
2-PHASE ROTOR WINDING



COMPONENT X DRIVE CURRENT SCALING FACTOR 0.866  
COMPONENT Y DRIVE CURRENT SCALING FACTOR 0.500

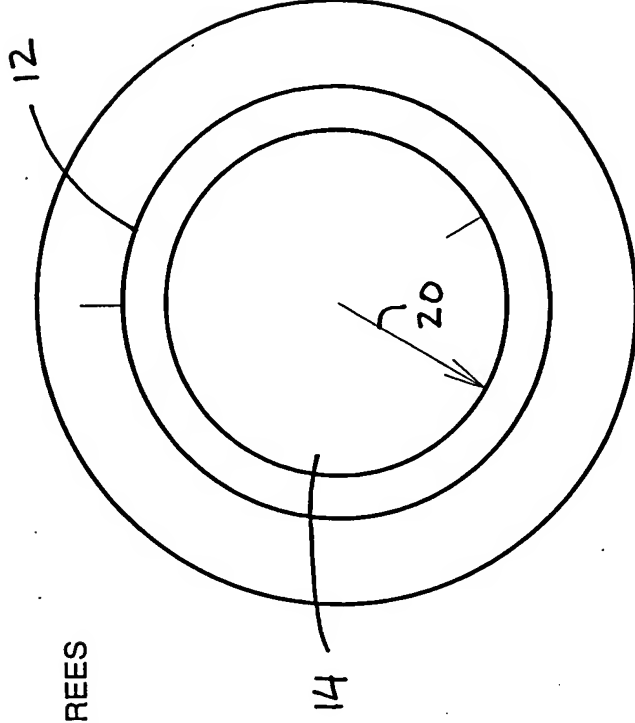


Fig. 3

208020" OF 2720T

30

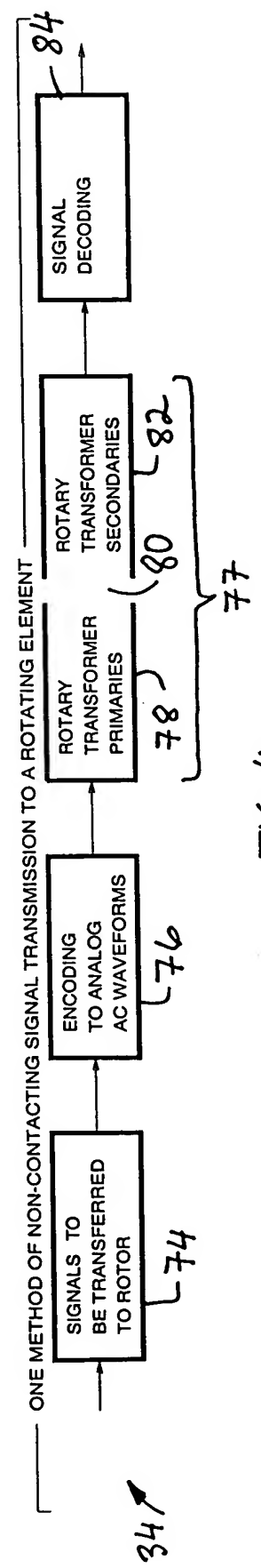
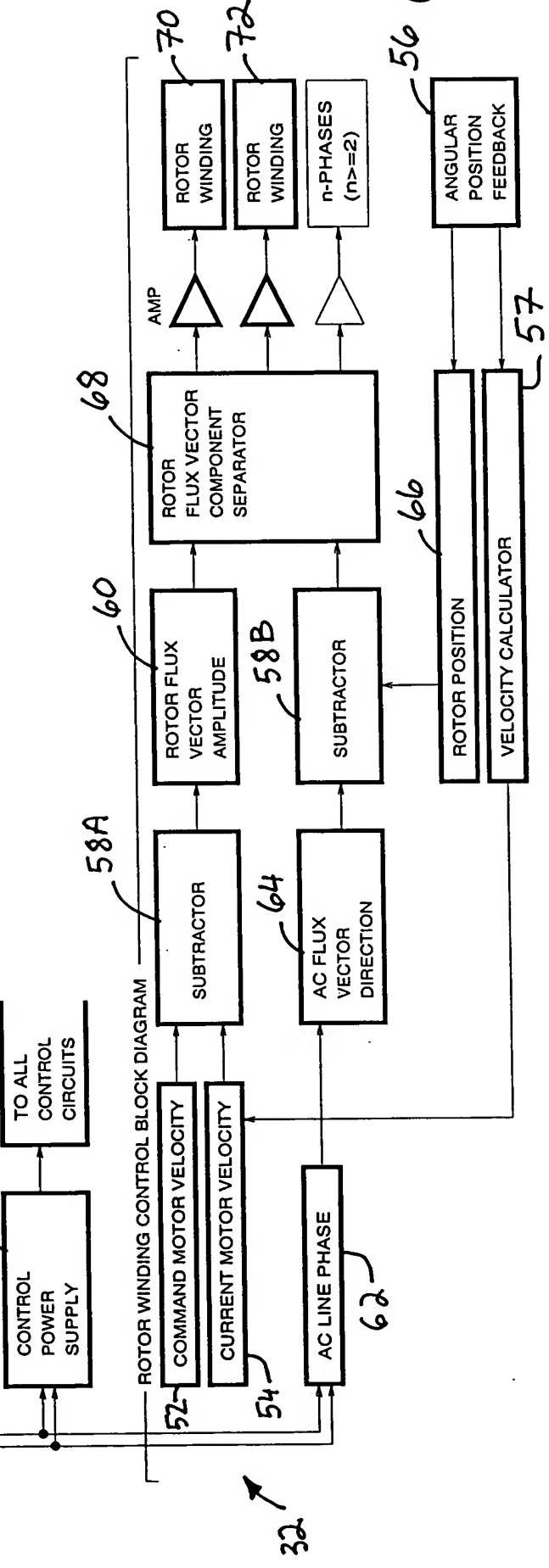
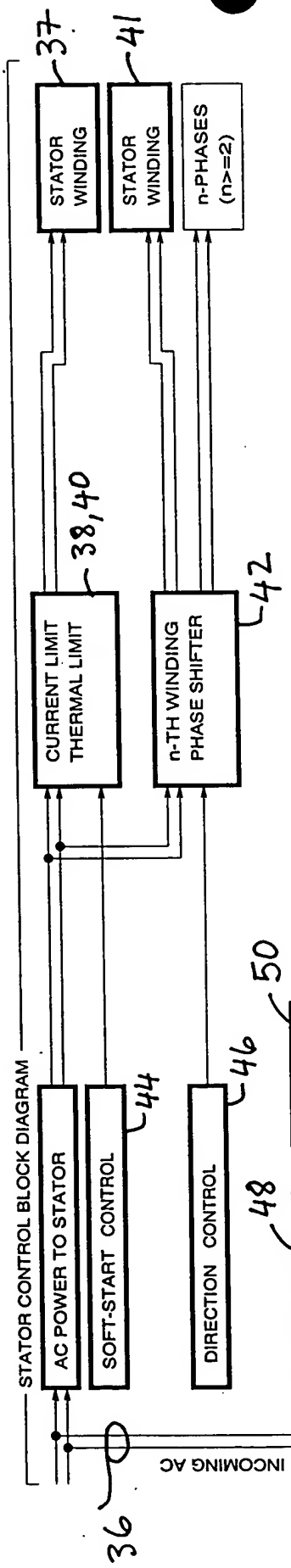


FIG. 4

20220715T2007

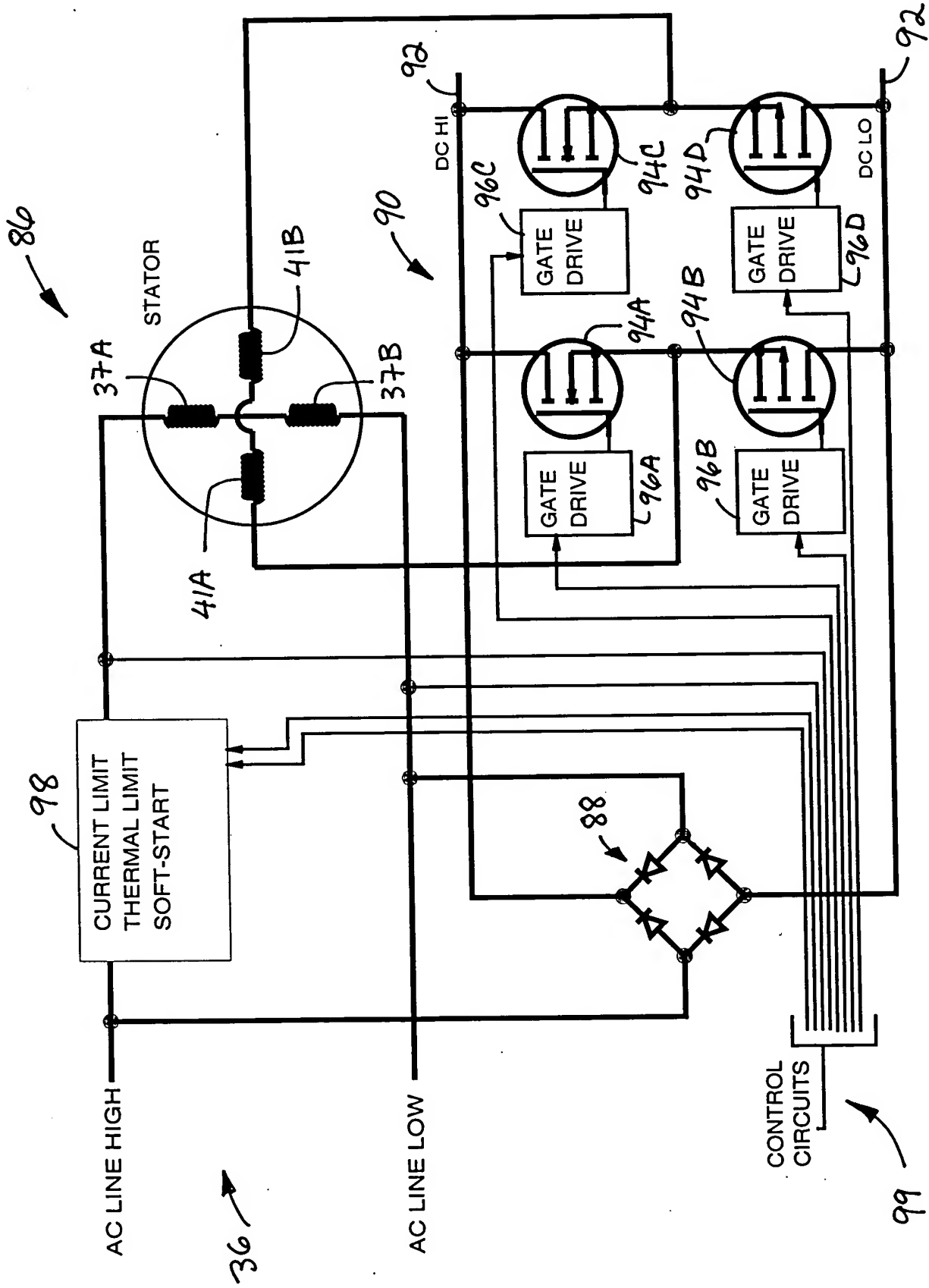


FIG. 5

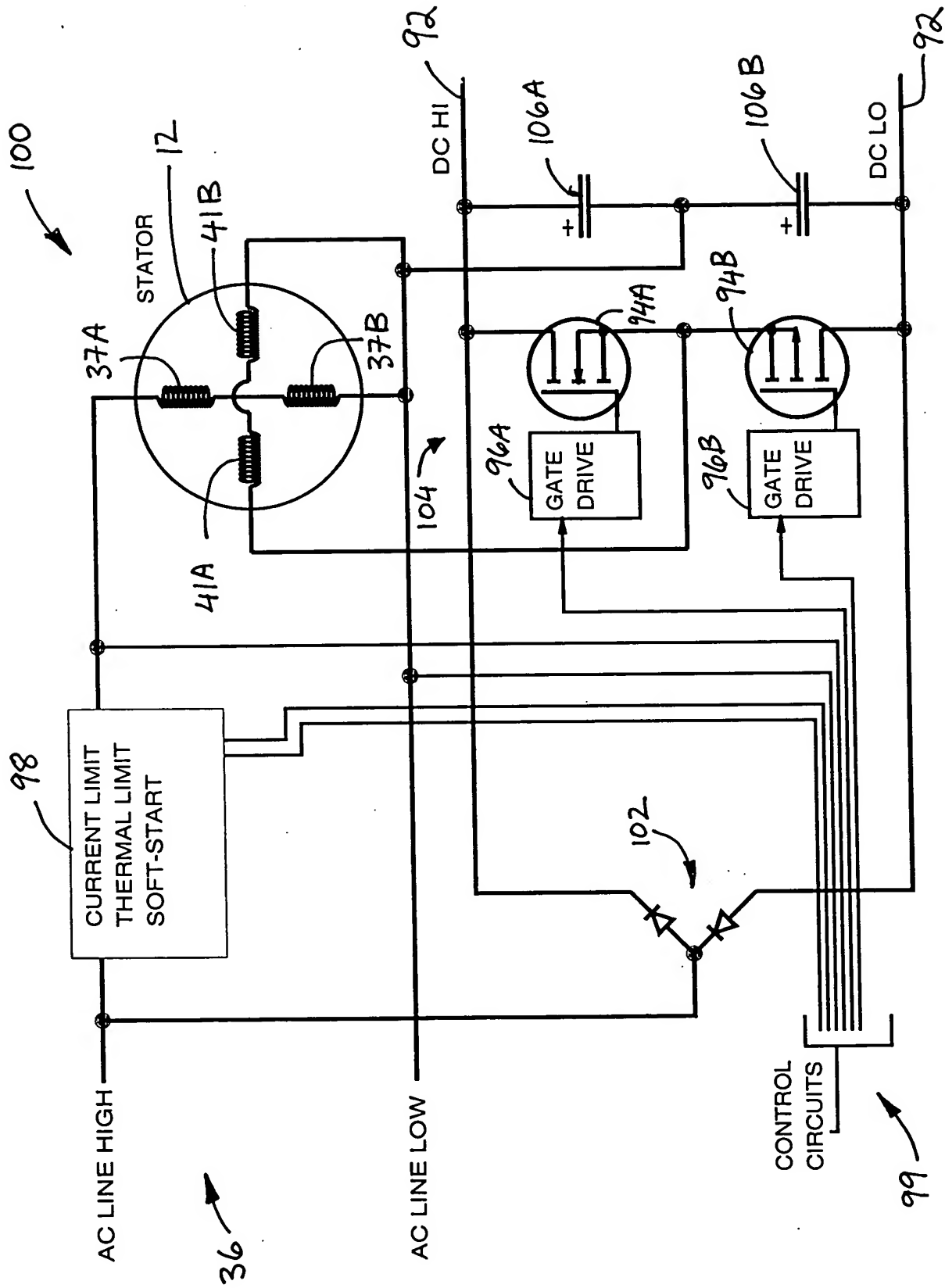


FIG. 6

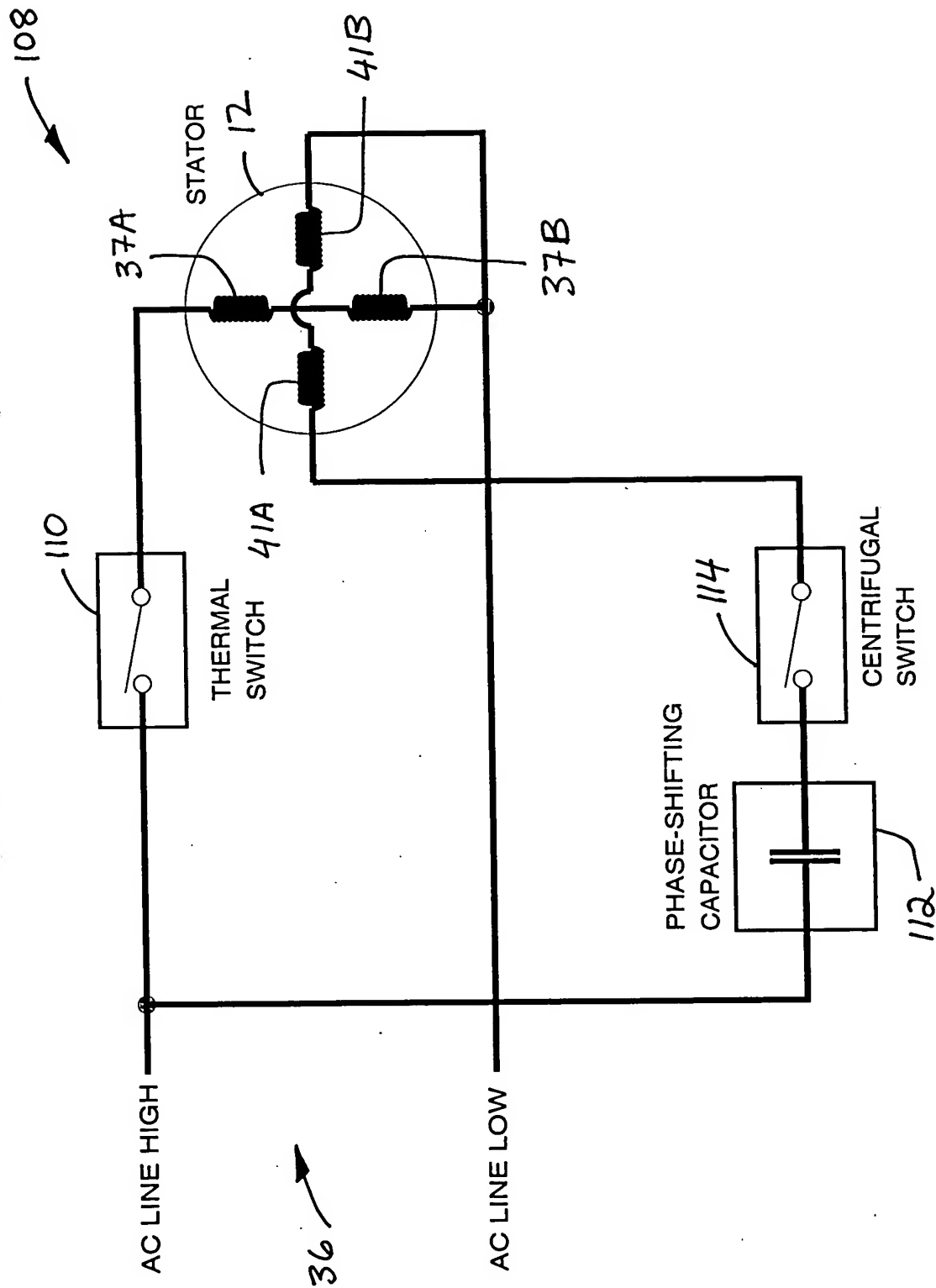


FIG. 7

2020020" 016T 000T

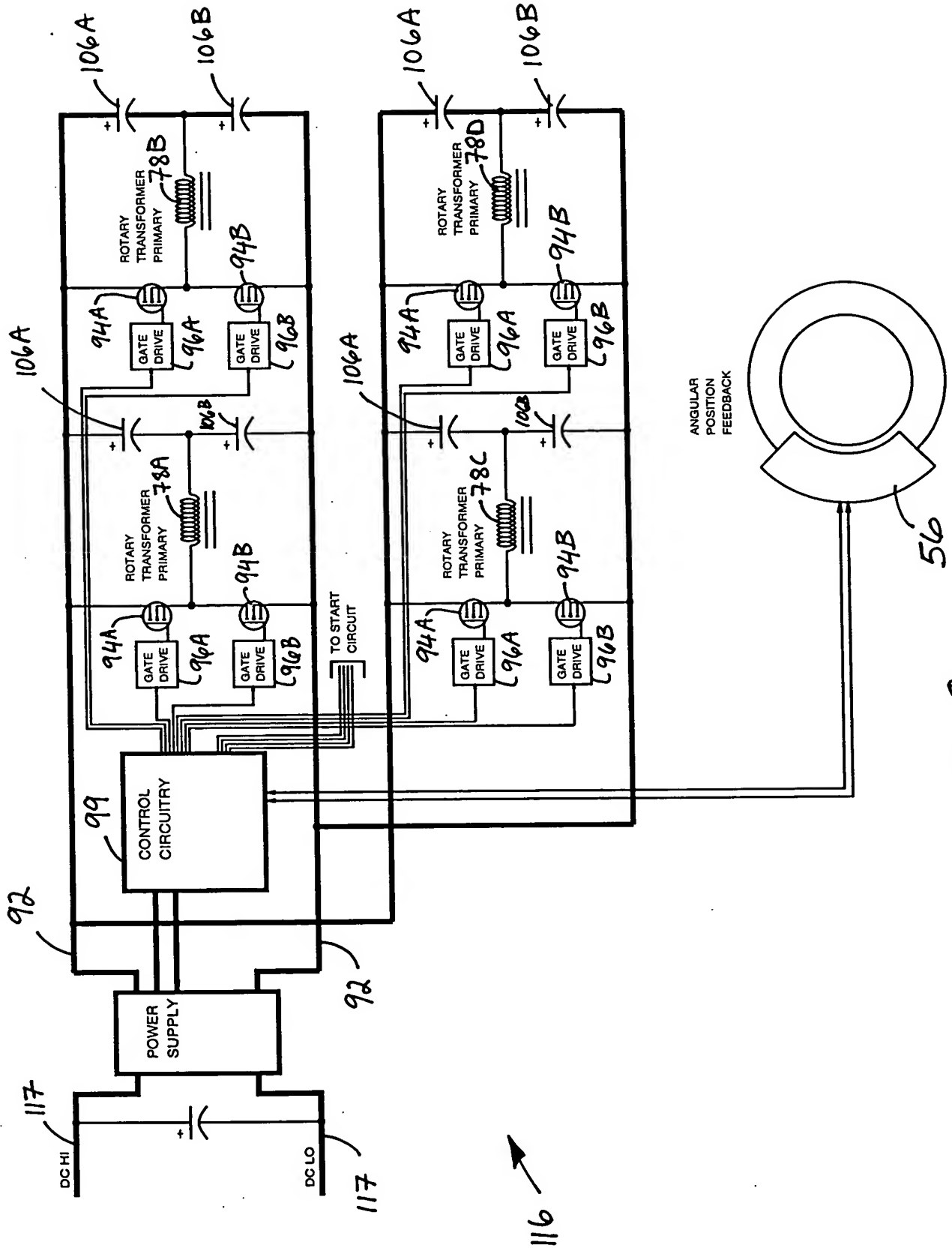


FIG. 8



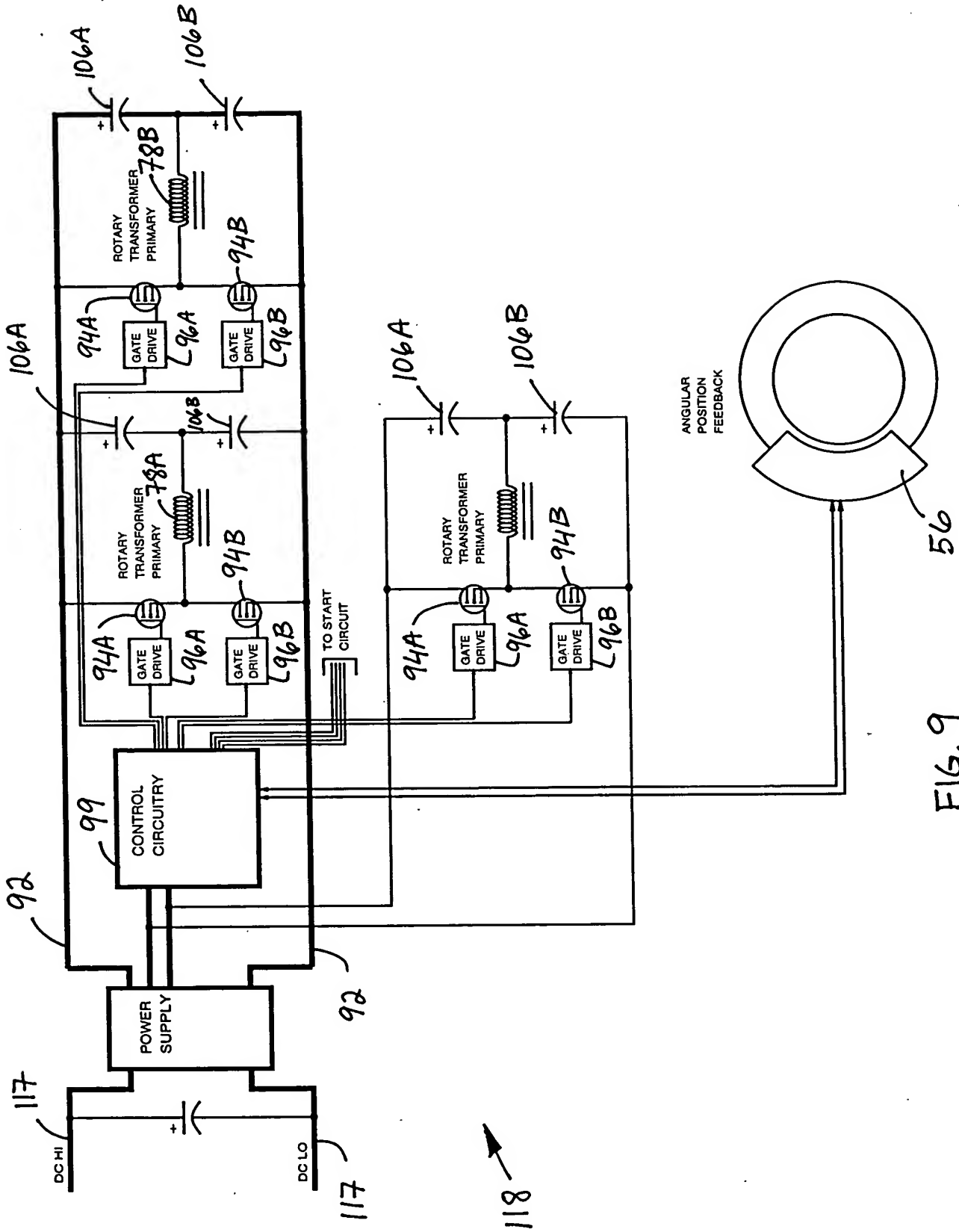
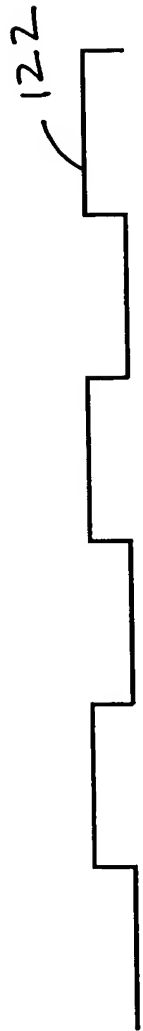


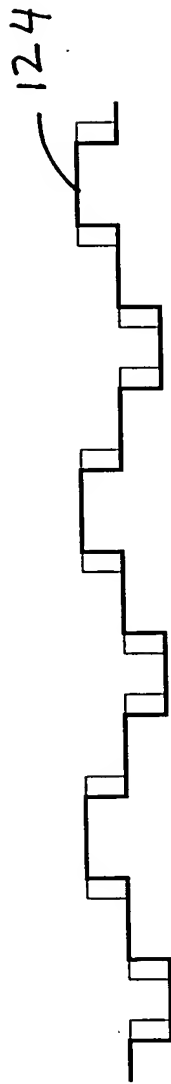
FIG. 9

208020" OF 6T 200T

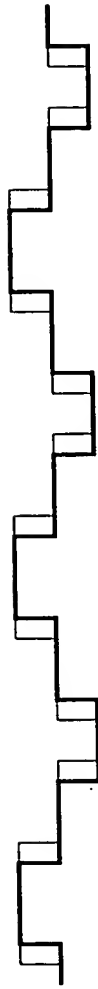
120 →



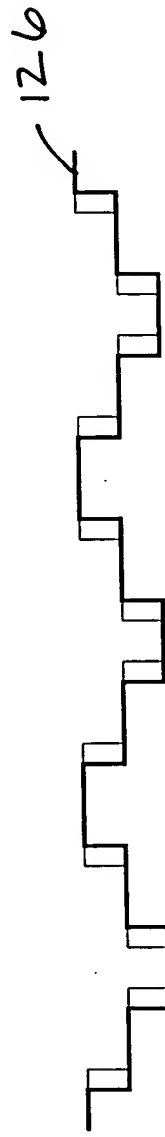
20kHz REF



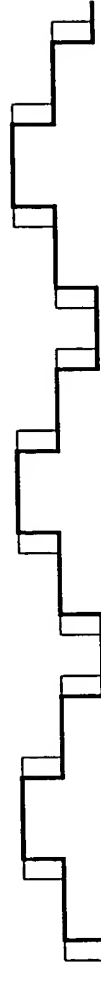
A WINDING  
SAMPLE  
POSITIVE  
DRIVE



A WINDING  
SAMPLE  
NEGATIVE  
DRIVE



B WINDING  
SAMPLE  
POSITIVE  
DRIVE



B WINDING  
SAMPLE  
NEGATIVE  
DRIVE

THREE-TRANSFORMER DRIVE TIMING DIAGRAM

FIG. 10

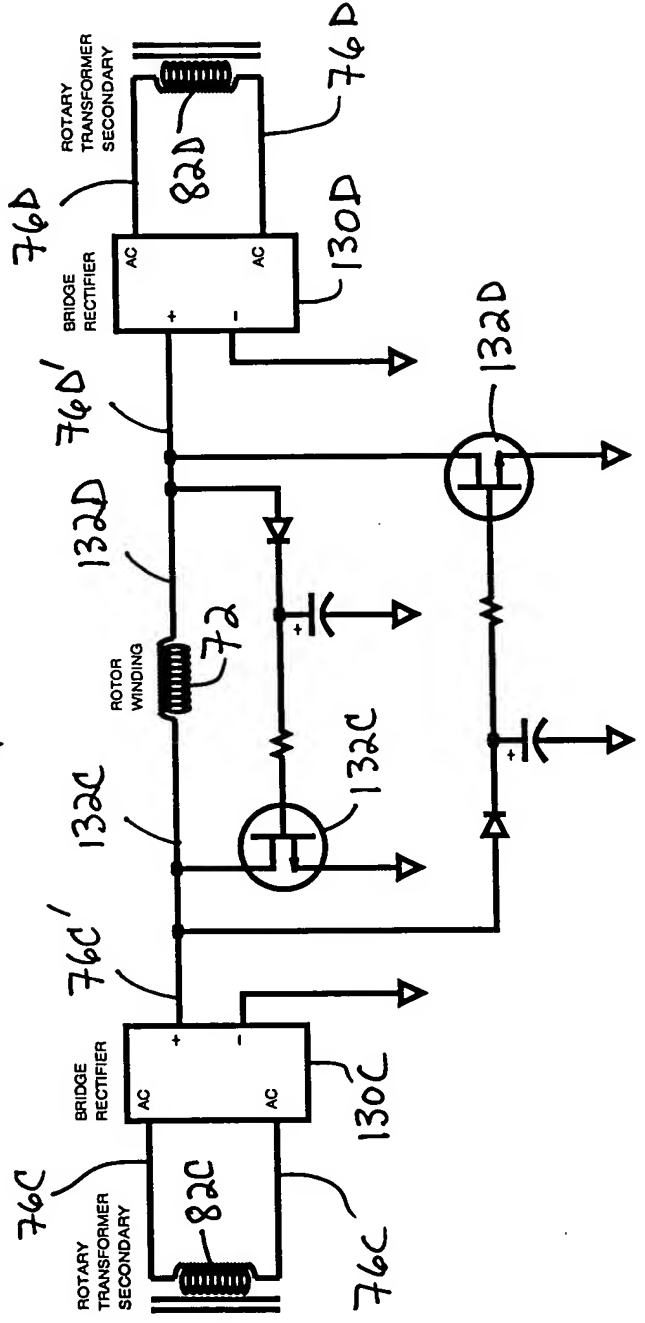
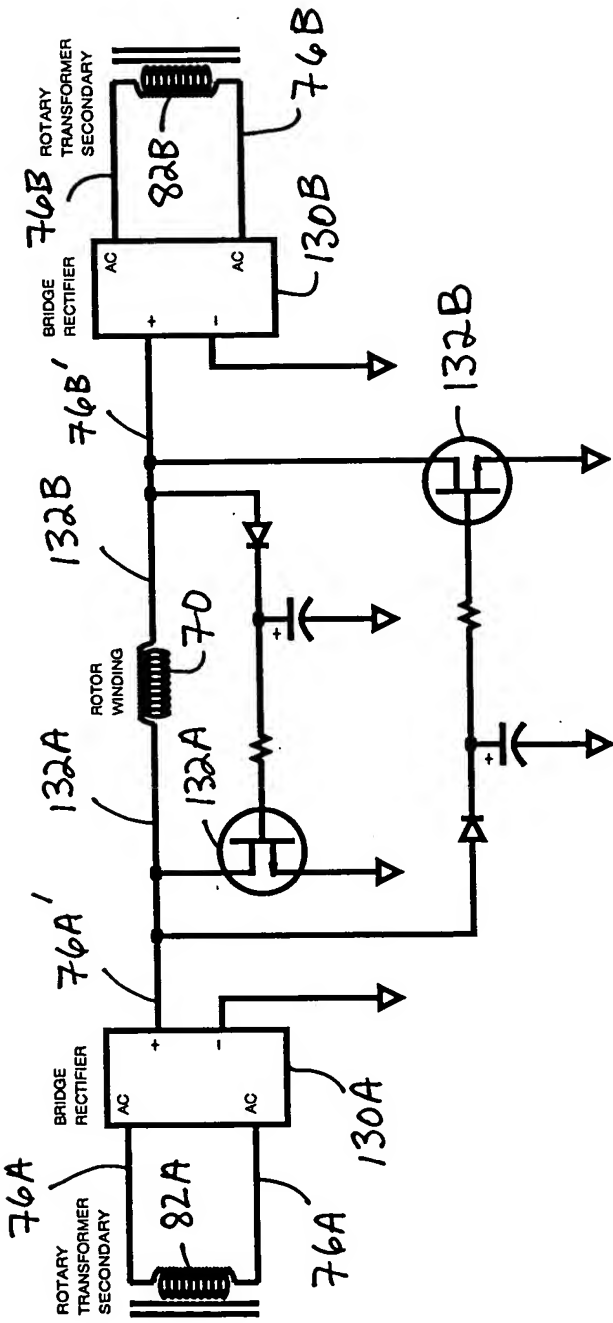


FIG. 11

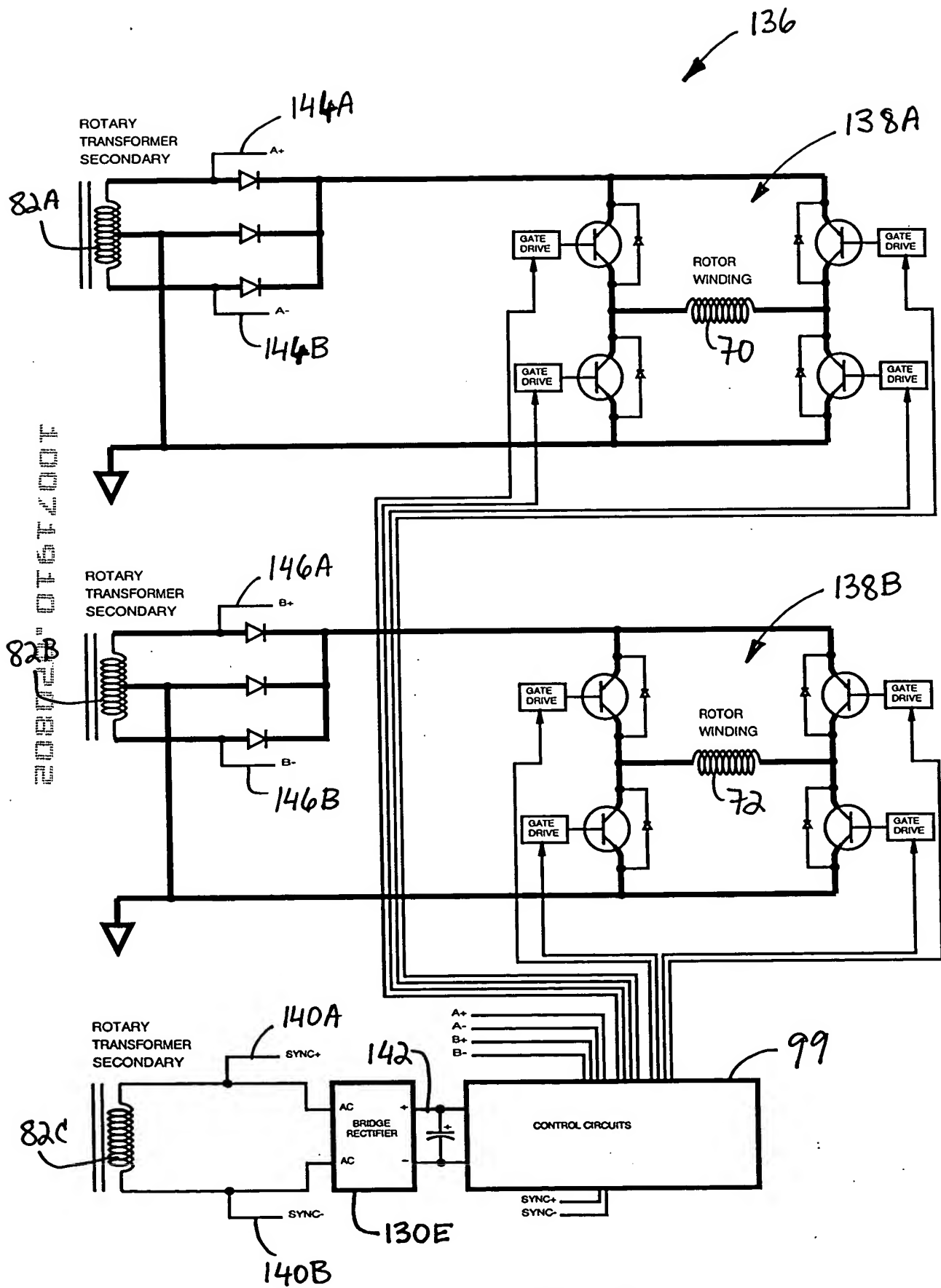


FIG. 12

148

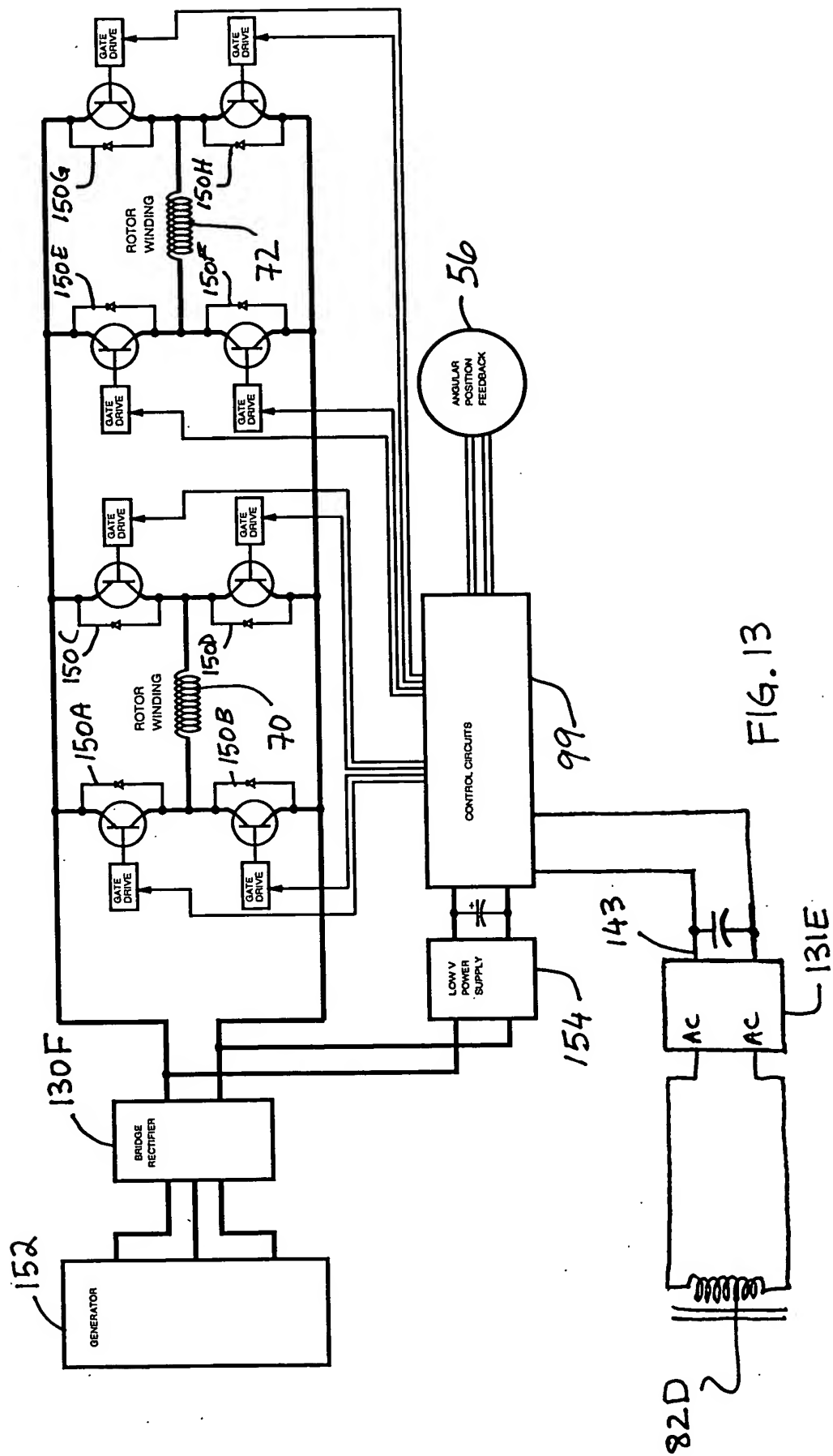
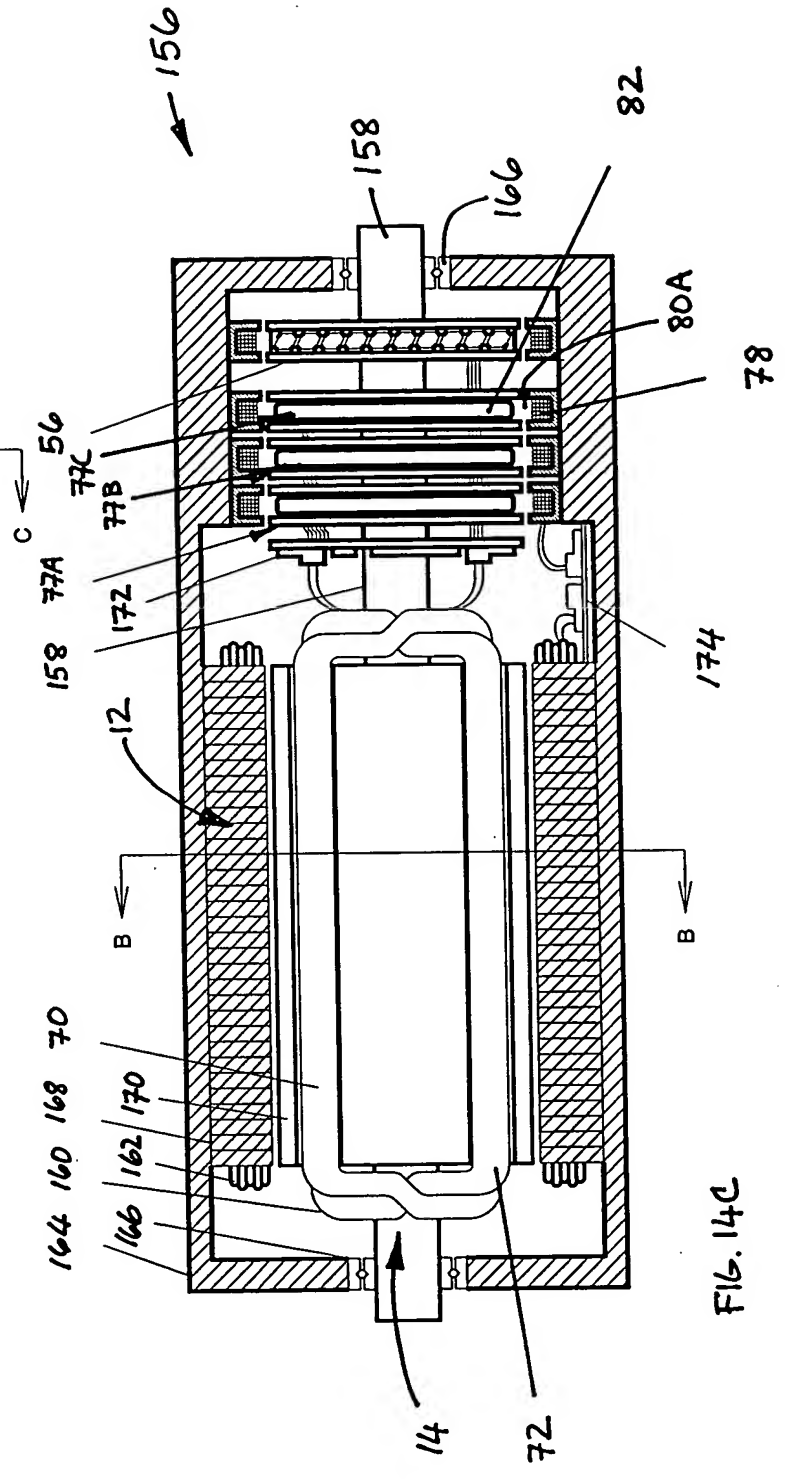
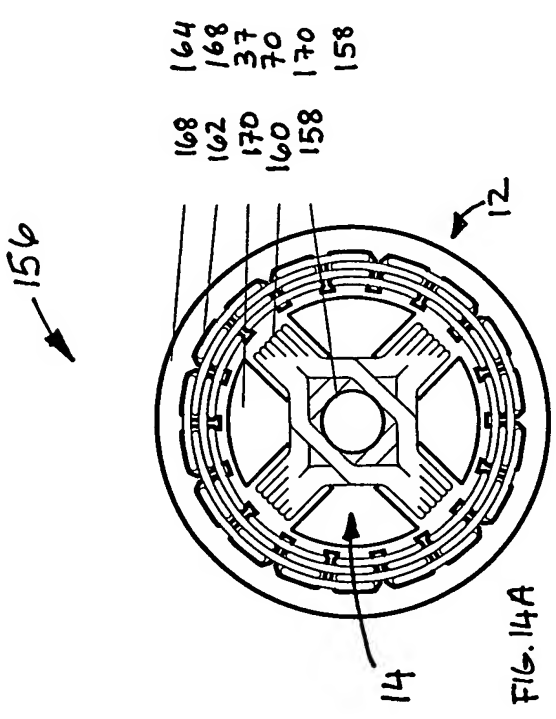
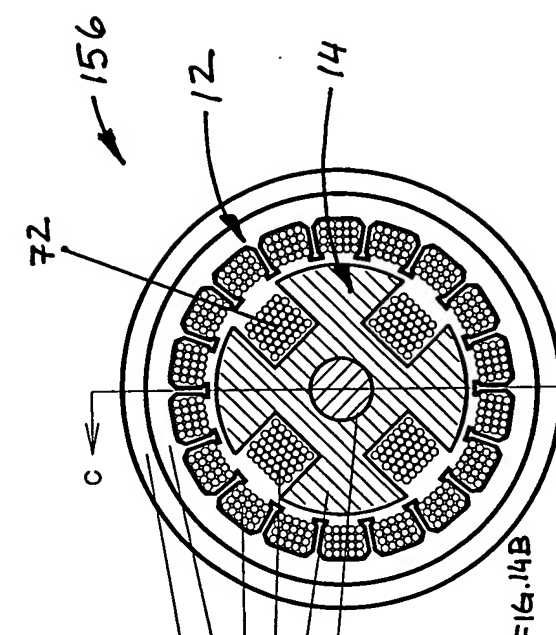
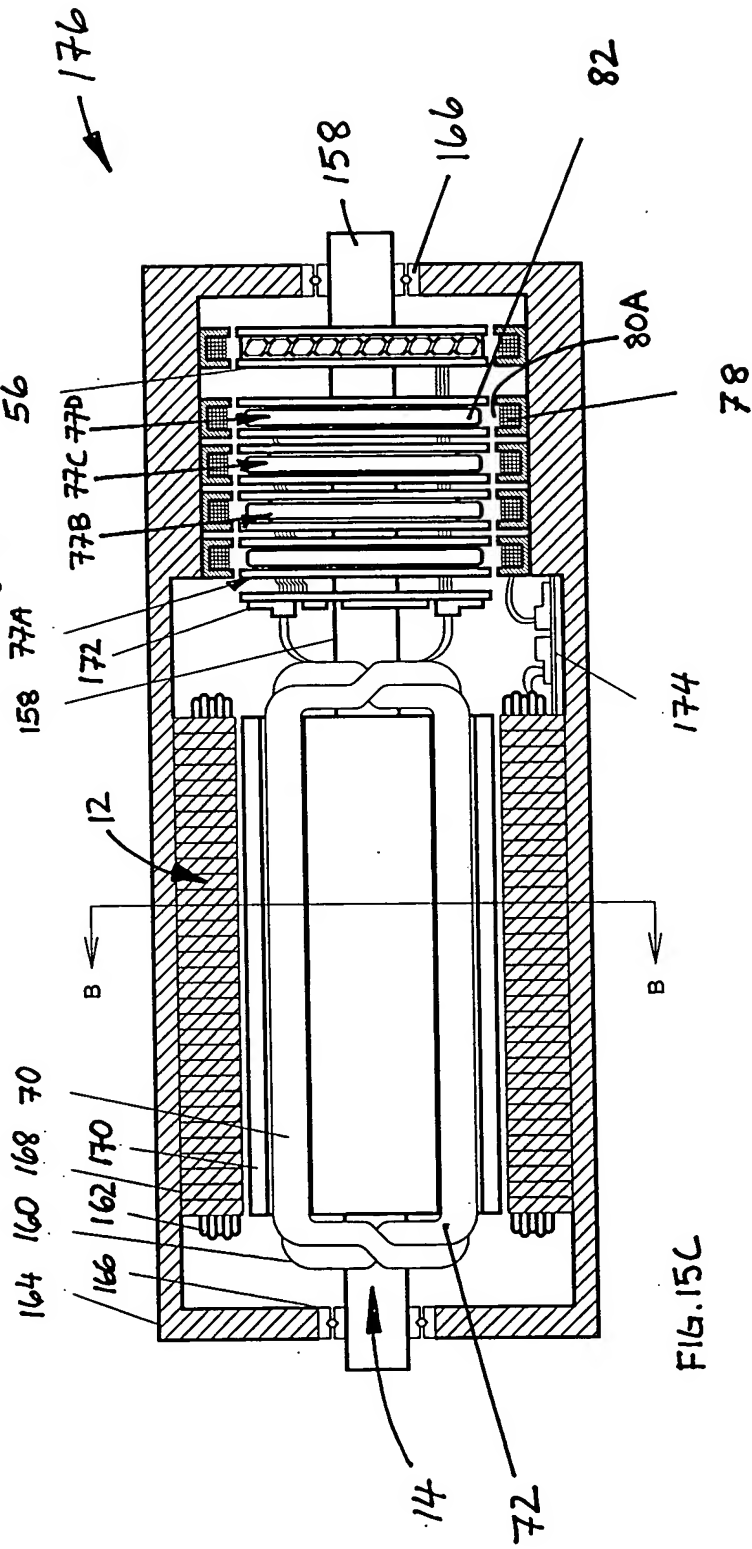
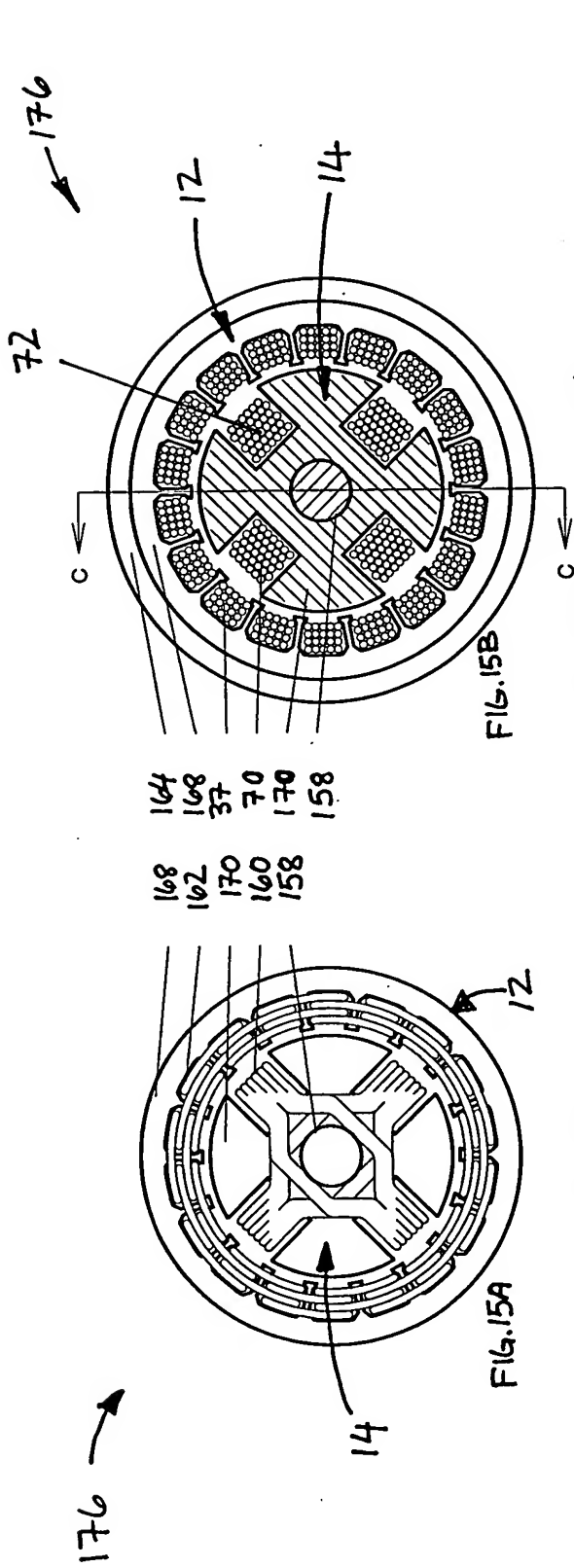


FIG. 13





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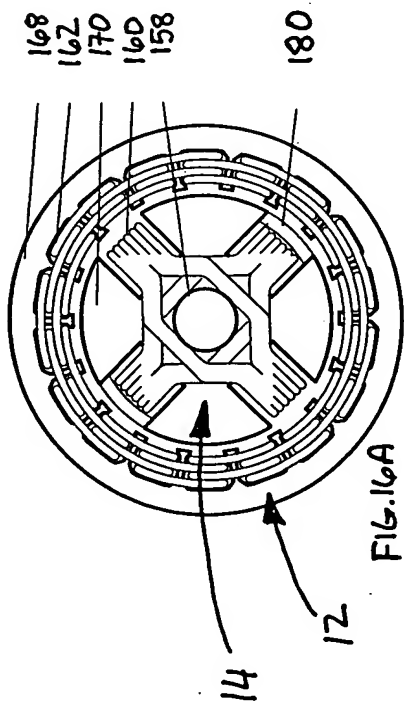


FIG. 16A

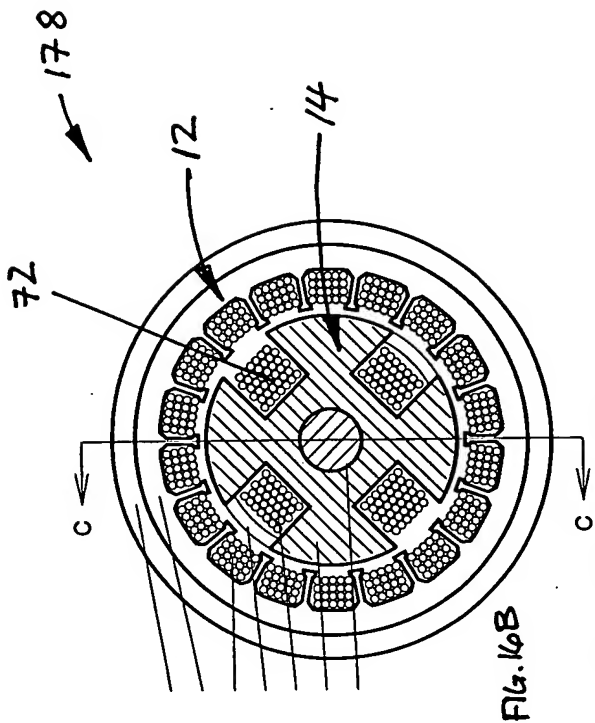


FIG. 16B

164 160 168 70

180 158 77A 56

178

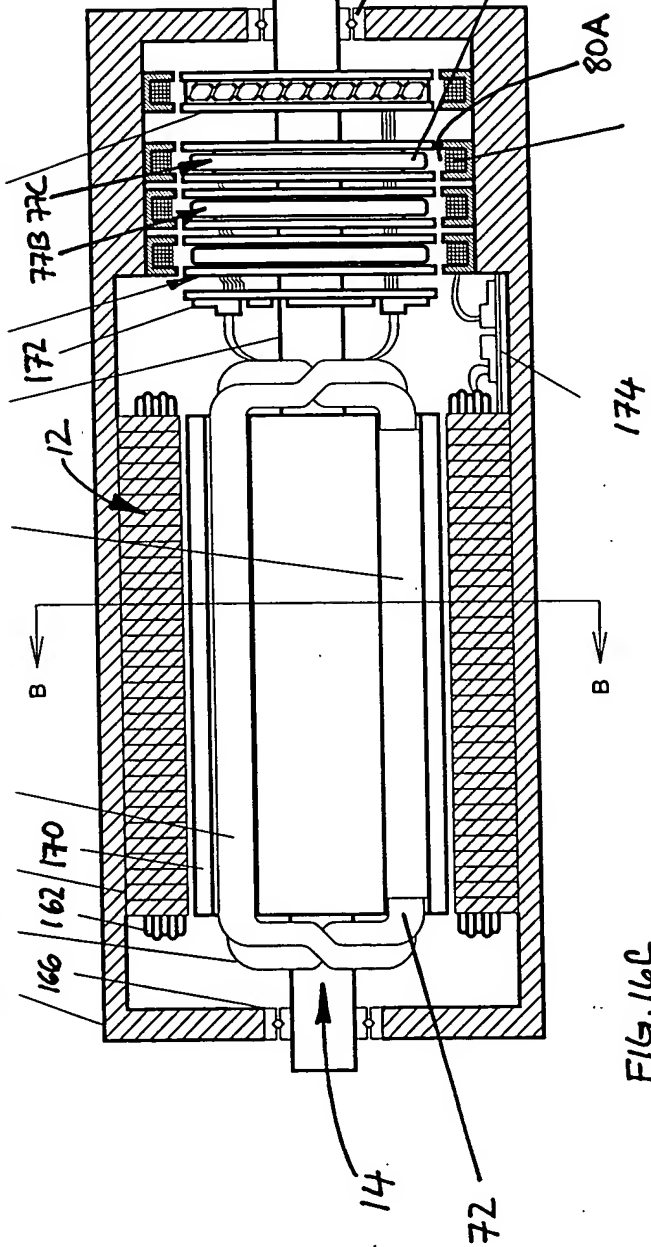


FIG. 16C

78





2020218501612001

77

80C

186

188

190

158

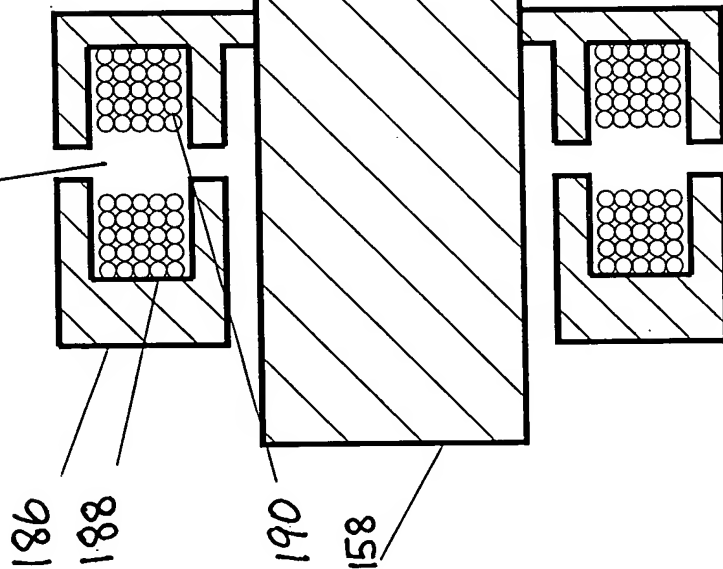


FIG. 18B

80A

78

82

158

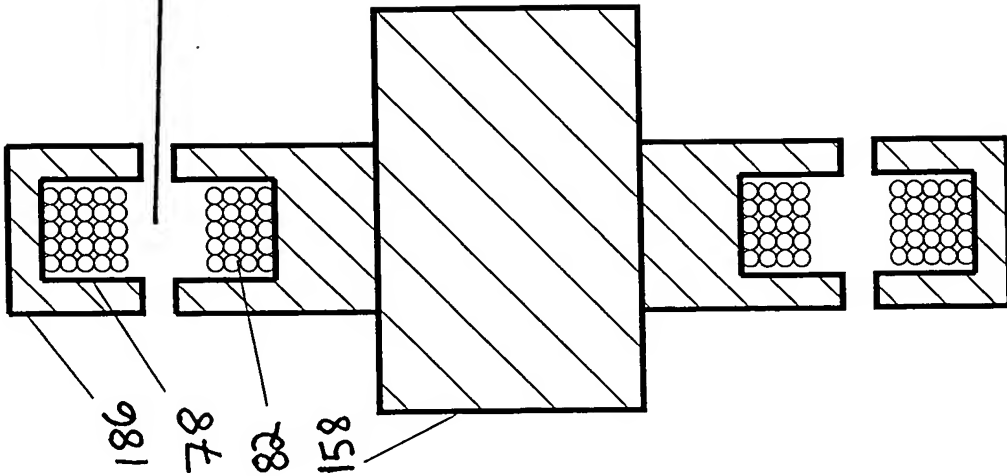


FIG. 18A